Air Quality Permitting
Statement of Basis

June 14, 2005

Permit to Construct No. P-050200

Potlatch Corporation, Clearwater Wood Products
Lewiston, ID

Facility ID No. 069-00003

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AIR QUALITY DIVISION

PROPOSED

Table of Contents

Acronyms, Units, and Chemical Nomenclatures

acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
Bf/yr	board feet per year
BH	baghouse
Btu	British thermal unit
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EPA	U.S. Environmental Protection Agency
gpm	gallons per minute
gr/dscf	grains per dry standard cubic feet
gr	grain (1 lb = 7,000 grains)
HAPs	Hazardous Air Pollutants
hp	horsepower
hr/yr	hours per year
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb	pound
lb/hr	pound per hour
m	meter(s)
MACT	Maximum Achievable Control Technology
Mbf/hr	thousand board feet per hour
Mbf/yr	thousand board feet per year
MMbf/yr	million board feet per year
MMBtu	million British thermal units
NA	not applicable
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NSPS	New Source Performance Standards
O_3	ozone
ORCAA	Olympic Region Clean Air Agency
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
ppm	parts per million
PSD	Prevention of Significant Deterioration
PTC	permit to construct

PTE	potential to emit
Rules	Rules for the Control of Air Pollution in Idaho
scf	standard cubic feet
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SM	Synthetic Minor
SO_2	sulfur dioxide
SOx	sulfur oxides
T/yr	tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

1. PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 58.01.01.200, Rules for the Control of Air Pollution in Idaho, for issuing permits to construct.

2. FACILITY DESCRIPTION

Potlatch Corporation operates the Clearwater Wood Products facility which manufactures dimensional kiln-dried lumber and trim board products. Wood waste in the forms of sawdust and chips are also produced as marketable products. Clearwater Wood Products is located in Lewiston, Idaho.

The facility is comprised of sawmill, lumber drying, surfacing, and Lewiston Cedar Products departments.

Raw logs are debarked and cut to desired lengths before entering the sawmill building. In the sawmill building the cut and debarked logs are cut to maximize the amount of lumber obtained from each log. The rough-cut green lumber is stacked before being dried in the kilns.

The existing lumber drying portion of the facility consists of 31 single-track masonry drying kilns constructed in the 1930's, manufactured by Moore, and one double-track kiln, manufactured by LSI and constructed in 1988. These kilns are indirectly-fired by design and operate on steam obtained from the adjacent Potlatch Pulp and Paper facility.

Dried lumber is removed from the kilns and either stored temporarily or sent to the surfacing department where the lumber is trimmed by saws, planed, sorted, stacked, strapped, and stored before shipment as final dimensional lumber product.

Lewiston Cedar Products (also referred to as the Profiling and Specialties Departments) obtains dimensional lumber from Clearwater Wood Products' surfacing department or outside suppliers. The lumber is planed, finger-jointed and glued, planed again if needed, and sanded. Dimensional trim board is either strapped for shipment or is profiled to a desired shape, and prepared for shipment.

Wood chips, sawdust, planer dust, and sander dust from process equipment are conveyed to storage areas by either conveyor belt or pneumatic conveyance systems employing cyclones or baghouses. The PTC application materials contain process flow diagrams and more detailed process descriptions.

The proposed modification consists of replacing the existing operational drying kilns with four double-track kilns. The kilns are indirectly-fired and operate on processed steam obtained from the adjacent Potlatch Pulp and Paper facility. The 32 existing kilns will operate concurrently with the four proposed Wellons kilns during a shakedown period of fine-tuning of the four Wellons kilns. After the Wellons kilns have been determined to operate according to the permittee's process requirements for a period not to exceed six months, the 32 existing kilns will be decommissioned.

3. FACILITY / AREA CLASSIFICATION

Potlatch Clearwater is defined as a major facility because potential emissions of methanol, which is a HAP, are greater than 10 tons per year. As presented in the application, the existing facility is a major source of NO_x, with potential emissions greater than 100 T/yr. Potential emissions of VOCs are greater than 100 tons per year after issuance of this modification. The AIRS classification for this facility is defined as "A". The facility is not classified as a major source for PSD. The AIRS data entry table is provided in Appendix A.

The facility is located within AQCR 62 and UTM zone 11. The facility is located in Nez Perce County which is designated as attainment or unclassifiable for all criteria pollutants (CO, NO_x, PM_{10}, SO_2, lead, and ozone).

4. APPLICATION SCOPE

The Department of Environmental Quality (DEQ) received a PTC application on January 4, 2005 to replace the facility's 32 existing lumber drying kilns with four new lumber drying kilns. A 15-day pre-permit construction approval application was received on March 18, 2005 for the same project. The four new kilns are more efficient than the existing kilns and have a greater production capacity. The 32 existing kilns have an estimated maximum production capacity of 237,628,000 bf/yr. The existing kilns are proposed to be replaced with four new kilns with a combined maximum production capacity of 351,009,000 bf/yr.

The permittee has requested that the existing and new kilns be allowed to operate concurrently for a shakedown period expected to be less than six months. The maximum annual production capacity of 351.009 MMbf/yr is the operating limit for all existing and new kilns when operating concurrently, and for the four new Wellons kilns after the existing kilns have been decommissioned.

4.1 Application Chronology

January 4, 2005	DEQ received an application for a PTC, designated project number P-050200 from Geomatrix Consultants, Inc., on behalf of the Potlatch Corporation, Clearwater Wood Products facility.
February 3, 2005	The application was declared complete.
March 18, 2005	DEQ received a 15-day pre-permit construction approval application from Geomatrix Consultants, Inc., on behalf of the Potlatch Corporation, Clearwater Wood Products facility. This submittal replaces the PTC application materials initially received on January 4, 2005, and all submittals received up to the March 18, 2005 submittal. The March 18, 2005 submittal and any supplementary materials are to be used as the basis for issuing the PTC for the kiln replacement project.
March 18, 2005	DEQ received a request from Potlatch Clearwater to review a facility draft PTC.
March 24 and April 1, 2005	DEQ received additional information for the PTC application concerning information requested by DEQ on the original PTC application materials.
April 1, 2005	DEQ issued pre-permit construction approval for the proposed project.
April 15, 2005	DEQ declared the 15-day pre-permit construction approval application complete.
May 20, 2005	DEQ received notification that Potlatch does not request a facility draft of the PTC package.

5. PERMIT ANALYSIS

This section of the Statement of Basis describes the regulatory requirements for this PTC action.

5.1 Equipment Listing

Existing Kilns

The facility operates 31 existing masonry kilns, manufactured by Moore. These kilns were constructed prior to 1930. Potential annual production capacity of each Moore kiln is 6,812 Mbf/yr, drying Douglas fir, for a total capacity of the 31 kilns of 211,165 Mbf/yr. Emissions are uncontrolled.

One double-track kiln, manufactured by LSI, was constructed in 1988. Potential annual production capacity of the LSI kiln is 31,755 Mbf/yr, when drying Douglas fir. Emissions are uncontrolled.

Proposed Replacement Kilns

The facility proposes to construct and operate four identical double-track kilns. The kilns are Model No. 104 ft DT (double track kiln, 104 feet in length), manufactured by Wellons. The annual kiln capacity for each kiln is 87,752 Mbf/yr, or 351,009 Mbf/yr for all four kilns when drying Douglas fir species. Emissions are uncontrolled.

5.2 Emissions Inventory

Emissions associated with this project at the Potlatch Clearwater Wood Products (Potlatch Clearwater) facility include criteria, hazardous, and toxic air pollutants from the new and existing lumber drying kilns and the sawmill and surfacing departments process emissions points—which consist of process cyclones and baghouses. Potential emissions increases of SO_2, PM_{10}, VOCs, NO_x, and CO resulting from increased steam demand from Power Boiler No. 4, which is operated by Potlatch Pulp and Paper Division, a separate and adjacent facility, were also analyzed by the permittee for NAAQS compliance.

Potlatch submitted an emissions inventory for PM_{10} emissions from sources at Potlatch Pulp and Paper and Consumer Products Divisions in support of the ambient impact analysis for this project. These emissions are not included in the following tables. Potlatch Clearwater is a separate facility from the Pulp and Paper and Consumer Products facilities. Please refer to the PTC application materials or the DEQ modeling review memorandum in Appendix B to review emission estimates for the Pulp and Paper and Consumer Products facilities. Emission estimates were checked by DEQ staff and were found to be acceptable.

The assumptions presented by the permittee in Sections 4.2 (page 19) and 4.3 (page 20) of the 15-day pre-permit construction approval application, concerning existing actual production capacities and the hourly emissions increases associated with the increase in potential lumber production appear reasonable.

Lumber Drying Kilns

The permittee presented worst-case emission estimates for the wood species that are to be processed at this facility. Tables 5.1 and 5.2 contain the emission factors used in the permittee's application. The emission factor documentation is contained in Appendix D of this memorandum.

Emission factors for each pollutant emitted are in units of lb pollutant per thousand board feet of lumber throughput. The permittee assumed 100% utilization of kiln drying capacity to estimate PTE. Actual emissions were estimated using the recorded throughput of lumber for each species within that calendar year and multiplying by the appropriate emission factor for that species, or by a generic emissions factor, if a species-specific factor was not used. Emissions from lumber drying kilns were estimated for PM_{10}, individual HAPs, and individual TAPs.

For existing facility PTE, the permittee assumed the highest emitting species of wood for each pollutant being processed at the potential production rate of 237.6 MMbf/yr. The same approach was used for establishing future potential emissions using the throughput of 351.009 MMbf/yr throughput.

Table 5.1 VOCS, PM, AND PM_{10} EMISSION FACTORS

Pollutant	Wood Specie	Emissions Factor (lb/Mbf)[b]	Source of Emission Factor
PM/PM_{10}[a]	Hemlock	0.05	Oregon Department of Environmental Quality, Emission Factors, Wood Products AQ-EF02, June 26, 2003 PM_{10} fraction from Oregon DEQ, Emission Factors, Wood Products, AQ-EF03, April 25, 2000
	Fir/Larch	0.02	
	Cedar	0.04	ORCAA[e], Dry Kiln Emission Factors, April 8, 1999
VOCs[c]	Hemlock	0.14	ORCAA, Dry Kiln Emission Factors, April 8, 1999
	Fir/Larch[d]	0.61	Oregon Department of Environmental Quality, Emission Factors, Wood Products AQ-EF02, June 26, 2003
	Cedar	0.25	ORCAA, Dry Kiln Emission Factors, April 8, 1999

a) Particulate matter/particulate matter with a mean aerodynamic diameter of ten micrometers or less
b) pounds per thousand board feet
c) volatile organic compounds
d) Douglas fir emission factor is worst-case for fir/larch category.
e) Olympic Region Clean Air Agency

Table 5.2 TAPS EMISSION FACTORS REPRESENTING WORST CASE WOOD SPECIE

TAP	Wood Specie	TAP Emissions Factor (lb/Mbf)	Source of Emission Factor
Acetaldehyde	Generic	0.0078	K. Hanks and D. Bullock, MRI, to M. T. Kissel, EPA, Baseline Emissions Estimates for the Plywood and Composite Wood Products Industry, June 9, 2000
Formaldehyde	White fir	0.0028	Oregon State University Small-scale Kiln Study, M. Milota, September 29, 2000
Methanol	White fir	0.12	Oregon State University Small-scale Kiln Study, M. Milota, September 29, 2000
Methyl Ethyl Ketone	Generic	0.0013	K. Hanks and D. Bullock, MRI, to M.T. Kissel, EPA, Baseline Emissions Estimates for the Plywood and Composite Wood Products Industry, June 9, 2000
Phenol	Douglas Fir	0.004	ORCAA, Dry Kiln Emission Factors, April 8, 1999

Cyclones

PM_{10} emissions from the cyclones were estimated by the permittee using a spreadsheet incorporating empirical equations used to predict the emission control efficiency for the particle size distribution of the woodwaste material handled by the individual cyclone. The exhaust flow rate and physical dimensions of the cyclone are used by the calculation algorithm. The result is a unique emission factor for each cyclone in units of pounds per ton of woodwaste throughput that is used to calculate PM emissions. The permittee assumed PM_{10} emissions were equal to PM emissions, which is a conservative assumption for cyclone emissions. No other regulated air pollutants are anticipated to be emitted by the cyclones. Individual cyclone emissions factors generated by the permittee are contained in Appendix D of this memorandum.

The permittee established the potential emissions increase for each cyclone that could be realized due to the increased kiln production capacity. Woodwaste product throughputs for each of the cyclones were taken from 1999 recorded data to establish a basis to evaluate the potential increase in woodwaste product throughput. To estimate existing potential PM/PM_{10} emissions, the 1999 annual woodwaste throughput in units of tons per year was multiplied by the ratio of the existing facility's potential lumber production capacity of 237.6 MMbf/yr to the 1999 actual production of 151.6 MMbf/yr.

Current PTE (T/yr) = Emission Factor (lb/ton woodwaste) * 1999 Woodwaste Throughput (T/yr) *

((237.6 MMbf/yr current PTE throughput) / (151.6 MMbf/yr)) * (1 ton / 2000 lb)

Future potential PM/PM_{10} emissions were calculated in the same manner as current PTE values, except that a future PTE throughput value of 351.6 MMbf/yr was used.

Baghouses

The permittee based estimates of PM_{10} emissions on a manufacturer's guaranteed grain loading of 0.003 gr/dscf of airflow. Airflow for each baghouse is determined by the fan system capacity. Grain loading emission rates were converted to pounds per hour using conversion factors of 7000 grains per pound and from pounds per hour to tons per year using a worst case assumption of 8,760 hours per year operation for each baghouse and a conversion factor of 2000 pounds per ton.

Future potential PM and PM_{10} emissions for the proposed project were estimated by establishing the number of operating hours at 4,280 hr/yr for the baghouses during the past for the production of 183,881 Mbf of lumber. The average hourly production rate per hour of operation was determined to be 42.96 Mbf/hr. The requested potential production of 351,009 Mbf/yr was divided by actual average hourly production rate to derive a value of 8,170 hr/yr that would be needed to process the 351,009 Mbf/yr of lumber.

Annual future potential emissions were estimated by multiplying the grainloading factor by the individual baghouse's air flow rate, 8,170 hr/yr operation. These values were converted from grains of emissions to tons of emissions per year.

The hourly PM and PM_{10} emissions increases for this project were estimated by multiplying the hourly emission rate established by the grainloading factor and fan capacity for the baghouse system by the hours of operation for actual emissions (16 hours per day to account for two shifts), and future potential emissions (24 hours per day to account for three shifts). The actual hourly emissions were subtracted from the future potential emissions to estimate the increase in emissions.

Internal Combustion Engines

The facility operates four diesel-fired internal combustion engines to run four emergency firewater pumps. Each engine is rated at 170 hp, and the permittee estimated PM_{10}, SO_2, VOCs, CO, and NO_x emissions using AP-42 emission factors from Section 3.3—Gasoline And Diesel Industrial Engines, October 1996. For existing and future potential emissions, 8,760 hours per year of operation were used in the emission estimates. Actual operating hours are 52 hours per year at one hour per week. Emergency operation is not accounted for in the typical 52 hours per year of operation.

Profiles and Specialties Department Edge and Finger Joint Gluing and Future Potential PM/PM_{10}

The Profiles and Specialties Department is also referred to as the Lewiston Cedar Products Department. The operational independence of this department from the rest of the facility is pertinent to establishing the modification's potential emissions increases for all profiles and specialties process cyclones and baghouses. There are no PM and PM_{10} increases associated with this department.

The existing facility PTE for VOCs was estimated by the permittee by scaling the highest annual glue usage rates for 2002 and 2003 to a rate that reflects 8,760 hours of operation as worst-case approach.

Table 5.3 contains the potential to emit for the Clearwater Wood Products facility for regulated air pollutant emissions following issuance of PTC No. P-050200. Table 5.4 contains a summary of the TAPs emission rates used in this permitting analysis to account for the increases in TAPs emissions for this project. The detailed emissions inventory submitted by Potlatch is included in Appendix B of this memorandum.

Table 5.3 FACILITY POST-MODIFICATION ANNUAL POTENTIAL EMISSION INVENTORY

Emission Unit/Source	PM[a]	PM_{10}[b]		VOCs[c]	CO[d]	NO_x[e]	SO_2[f]
	(T/yr)[g]	(lb/hr)[j]	(T/yr)	(T/yr)	(T/yr)	(T/yr)	(T/yr)
Kiln Vents[h]	6.64[i]	1.51	6.64	107.1			
Cyclone CY-1	0.14	0.07	0.14				
Cyclone, CY-2	0.03	0.02	0.03				
Cyclone, CY-3	0.06	0.03	0.06				
Cyclone, CY-4	0.35	0.17	0.35				
Cyclone, CY-6	0.21	0.11	0.21				
Cyclone, CY-18	0.02	0.004	0.02				
Cyclone, CY-25	0.64	0.16	0.64				
Cyclone, CY-26	0.02	0.01	0.02				
Cyclone, CY-27A	0.07	0.02	0.07				
Cyclone, CY-27B	0.07	0.02	0.07				
Surfacing Baghouse, BH-1	4.06	0.93	4.06				
Surfacing Baghouse, BH-2	4.28	0.98	4.28				
Surfacing Baghouse, BH-3	4.62	1.05	4.62				
Profile Baghouse, BH-4	5.07	1.16	5.07				
Profile Baghouse, BH-5	4.84	1.11	4.84				
Profile Baghouse, BH-6	3.94	0.90	3.94				
Profile Baghouse, BH-7	3.72	0.85	3.72				
Edge and Finger Joint Gluing, GL-1				3.55			
IC Engines, Firewater Pumps, IC-1, IC-2, IC-3, IC-4, IC-5 Aggregated Emissions	6.55	1.48[k]	6.55	7.36	19.97	92.30	6.11
IC Engine, Greenhouse Generator, IC-5	1.21	0.28	1.21	1.35	3.66	16.99	1.12
Facility-wide totals (T/yr)	**46.54**	**10.86**	**46.54**	**119.36**	**23.63**	**109.29**	**7.23**

a) Particulate matter
b) Particulate matter with a mean aerodynamic diameter of ten micrometers or less
c) Volatile organic compounds
d) Carbon monoxide
e) Nitrogen dioxide
f) Sulfur dioxide
g) Tons per year
h) Emissions related for all existing and proposed drying kilns during the concurrent operation period, and emissions related to operation of only the proposed Wellons drying kilns after the existing kilns have been decommissioned.
i) PM emissions were assumed to be equal to PM_{10} emissions.
j) Hourly PM_{10} emissions for aggregated kiln vent emissions for the four proposed Wellons kilns or the four proposed Wellons kilns and 32 existing Moore and LSI kilns.
k) Hourly PM_{10} emissions for the four firewater pumps are aggregated.

Table 5.4 SUMMARY OF POST-MODIFICATION TAPS EMISSION RATES

TAP Substance	TAPs Emissions[a] (lb/hr)	Screening Emissions Rate (lb/hr)	Modeling Required? Yes or No	TAPs Emissions[b] (T/yr)
Actetaldehyde[c]	0.15(0.31)	0.003	Yes	0.65
Formaldehyde	0.053	0.00051	Yes	0.23
Methanol	2.289	17.3	No	10.03
Methyl Ethyl Ketone	0.025	39.3	No	0.11
Phenol	0.076	1.27	No	0.43

a) Net emissions increase based upon future potential emissions minus the current actual average 2002 and 2003 emissions from the existing drying kilns. Hourly emissions are based on annual emissions averaged over 8,760 hours per year of operation.
b) Annual TAPs emissions increase based upon future potential emissions minus the current actual average emissions for 2002 and 2003 for the existing drying kilns.
c) Acetaldehyde emissions were considered to be controlled emissions based on 351,009 Mbf/yr of lumber throughput during concurrent operation of all kilns. Emissions from production of 351,009 Mbf/yr of lumber are represented in the emission rate listed in parentheses. The permittee modeled 0.31 lb/hr of acetaldehyde emissions.
d) Formaldehyde emissions were netted in accordance with IDAPA 58.01.01.210.09 and modeled in accordance with IDAPA 58.01.01.210.10.

5.3 Modeling

The permittee supplied NAAQS and TAPs ambient impact demonstrations in support of the PTC application. DEQ's memorandum concerning the review of these ambient impact demonstrations is included in Appendix C of this memorandum.

5.4 Regulatory Review

This section describes the regulatory analysis of the applicable air quality rules with respect to this PTC.

IDAPA 58.01.01.201 ..... Permit to Construct Required

Potlatch Clearwater proposes to replace all existing lumber drying kilns with four new double-track kilns that are more efficient and will increase the facility's capacity to process kiln-dried dimensional lumber from the existing kilns capacity of 237,628,000 bf/yr to a requested capacity of 351,009,000 bf/yr.

The replacement of the kilns creates an increase in potential emissions of VOCs, PM_{10}, TAPs, and HAPs. The four proposed kilns are not exemptable under IDAPA 58.01.01.220 because potential emissions of VOCs from the new kilns exceeds 100 T/yr.

IDAPA 58.01.01.205 ..... Permit Requirements for New Major Facilities or Major Modifications in Attainment or Nonattainment Areas

IDAPA 58.01.01.205 incorporates the federal PSD program in the state New Source Review Rules. Emissions associated with this project were estimated to establish the facility's potential to emit to demonstrate that the Clearwater Wood Products facility is an existing non-major source for PSD at the time the PTC application was submitted. Potlatch Clearwater is not a designated facility.

PTE for the existing kilns was established by Potlatch for the wood species the facility intends to process. These species include hemlock, firs (which include white and Douglas fir), and cedar. The permittee's estimated potential emissions of VOCs from the existing kiln vents to be 72.5 T/yr. The existing facility's PTE for VOCs was estimated to be approximately 85 T/yr.

PTE values for the greenhouse generator engine and fire water pump engines were estimated by the permittee using 8,760 hours per year of operation as a worst-case assumption. Table 5.5 lists the existing facility's PTE prior to completion of the kiln replacement project.

Table 5.5 EXISTING FACILITY EMISSION INVENTORY

Emission Unit/Source	PM[a] (T/yr)[e]	PM_{10}[b] (T/yr)[e]	VOCs (T/yr)[e]	CO (T/yr)[e]	NO_x (T/yr)[e]	SO_2 (T/yr)[e]
Kiln Vents, 32 Existing Kilns, KV-1	6.06	6.06	72.5			
Cyclone CY-1	0.09	0.09				
Cyclone, CY-2	0.02	0.02				
Cyclone, CY-3	0.04	0.04				
Cyclone, CY-4	0.23	0.23				
Cyclone, CY-6	0.14	0.14				
Cyclone, CY-18	0.01	0.01				
Cyclone, CY-25	0.43	0.43				
Cyclone, CY-26	0.02	0.02				
Cyclone, CY-27A	0.05	0.05				
Cyclone, CY-27B	0.05	0.05				
Surfacing Baghouse, BH-1	4.06	4.06				
Surfacing Baghouse, BH-2	4.28	4.28				
Surfacing Baghouse, BH-3	4.62	4.62				
Profile Baghouse, BH-4	5.07	5.07				
Profile Baghouse, BH-5	4.84	4.84				
Profile Baghouse, BH-6	3.94	3.94				
Profile Baghouse, BH-7	3.72	3.72				
Edge and Finger Joint Gluing, GL-1			3.55			
IC Engines, Firewater Pumps, IC-1, IC-2, IC-3, IC-4, IC-5 Aggregated Emissions	6.55	6.55	1.35	3.66	17.00	1.12
IC Engine, Greenhouse Generator, IC-5	1.21	1.21	7.36	6.11	92.30	6.11
Facility-wide totals (T/yr)	**45.43**	**45.43**	**84.76**	**9.77**	**109.30**	**7.23**

Potential emissions of each of the regulated air pollutants are below 250 T/yr, which establishes this facility as an existing non-major source with regard to PSD regulations. A determination of whether the net emissions increase associated with this modification creates a significant emissions increase as defined by 40 CFR 52.21(b)(40) is not required because Potlatch Clearwater is an existing non-major facility.

Post-Modification PTE for VOCs

The proposed kiln replacement project requests that the permittee be allowed to operate the existing Moore and LSI kilns concurrently with the new Wellons kilns during a shakedown period. The throughput of green lumber processed by all kilns was requested to be limited to 351,009,000 bf/yr during this period of concurrent operation. The post-modification facility-wide PTE of VOCs uses the same assumptions and calculations that the permittee used to estimate the existing facility's PTE of VOCs. Emissions of VOCs are effectively limited to below 250 T/yr with the limitation on annual throughput and a restriction on certain wood species that are high emitters of VOCs.

IDAPA 58.01.01.210…….....Demonstration of Preconstruction Compliance with Toxic Standards

Emissions of five TAPs were expected to increase as a result of the modification. The permittee quantified TAPs emissions using emission factors based on source testing results for lumber drying kilns. Emission factors were obtained from accepted published emission factors from western state environmental regulatory agencies or from documentation used by the EPA in analyzing HAP emissions for promulgating the Plywood and Composite Wood Products NESHAP standard.

The permittee demonstrated compliance with the TAPs Rules by netting emissions of TAPs in accordance with IDAPA 58.01.01.210.09 to determine if the emissions increase exceeded the screening emission rate limits specified in IDAPA 58.01.01.585 and 586. In determining the net emissions increase of TAPs emissions, as defined by IDAPA 58.01.01.007.06, the actual emissions, as defined by IDAPA 58.01.01.006.03, were based on production rates and wood species processed in calendar years 2003 and 2004. The emissions from 2003 and 2004 were averaged to establish actual emissions. The average actual emissions were subtracted from the requested future potential emissions of the drying kilns. The permittee performed an ambient air quality dispersion analysis for those pollutants with a predicted emissions increase that exceeded the screening emission rate limit.

Emissions of acetaldehyde and formaldehyde exceeded the screening emission rate limit for each pollutant. The permittee conducted ambient impact modeling for these pollutants to demonstrate that the emissions increases would not exceed each AACC increment. Future potential acetaldehyde emissions were modeled from the proposed kilns as a worst-case approach. This is considered a controlled emission rate and controlled ambient impact TAPs compliance demonstration per IDAPA 58.01.01.210.08. The lumber throughput is limited to the requested level of production. An acetaldehyde emission limit is required by IDAPA 58.01.01.210.08.c.

Actual average emissions of formaldehyde from the existing drying kilns were modeled as negative emissions and future potential formaldehyde emissions were modeled as positive emissions. The resulting predicted ambient impact was used to establish compliance with the AACC increment. This approach applied the net ambient concentration compliance demonstration per IDAPA 58.01.01.210.10. A formaldehyde emission limit is required by IDAPA 58.01.01.210.10.d.

IDAPA 58.01.01.213…….....Pre-Permit Construction

IDAPA 58.01.01.213.01……....Pre-Permit Construction Eligibility

The Potlatch Clearwater facility is an existing non-major source. The proposed modification is a non-major modification.

IDAPA 58.01.01.213.01.a

The permittee submitted a PTC application meeting the requirements of IDAPA 58.01.01.202.01.a, 202.02, and 202.03.

IDAPA 58.01.01.213.b.

The permittee and their consultant held a conference call with DEQ prior to submitting the PTC application.

IDAPA 58.01.01.213.c

The permittee submitted the documentation specified in IDAPA 58.01.01.213.c, including a copy of the public notice and an ambient impact demonstration conducted in accordance with a DEQ-approved protocol.

IDAPA 58.01.01.214…….....Demonstration of Preconstruction Compliance for New and Reconstructed Major Sources of Hazardous Air Pollutants

IDAPA 58.01.01.214.03 requires that owners or operators of major sources of HAPs that are subject to an applicable promulgated MACT standard comply with that MACT standard.

40 CFR 63.2231(a) and (b) establish applicability requirements for this NESHAP standard, and read:

(a) You own or operate a PCWP manufacturing facility. A PCWP manufacturing facility is a facility that manufactures plywood and/or composite wood products by bonding wood material (fibers, particles, strands, veneers, etc.) or agricultural fiber, generally with resin under heat and pressure, to form a structural panel or engineered wood product. Plywood and composite wood products manufacturing facilities also include facilities that manufacture dry veneer and lumber kilns located at any facility. Plywood and composite wood products include, but are not limited to, plywood, veneer, particleboard, oriented strandboard, hardboard, fiberboard, medium density fiberboard, laminated strand lumber, laminated veneer lumber, wood I-joists, kiln-dried lumber, and glue-laminated beams.

(b) The PCWP manufacturing facility is located at a major source of HAP emissions. A major source of HAP emissions is any stationary source or group of stationary sources within a contiguous area and under common control that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (10 tons) or more per year or any combination of HAP at a rate of 22.68 megagrams (25 tons) or more per year.

Potlatch Clearwater manufactures kiln-dried lumber and is an existing major source of HAPs emissions, for methanol. The existing and future aggregated HAPs emissions potential to emit are below 25 T/yr, based on the information contained in the PTC application. If additional wood species are processed in the future the HAPs PTE values may be affected depending on the emissions factor data available.

EPA published the MACT requirements for lumber drying kilns in the final rule's *Summary of Responses To Major Comments and Changes to the Plywood and Composite Wood Products NESHAP.* EPA stated:

Because the MACT floor determination for lumber kilns is no emission reduction (as explained in the proposal preamble), there will not be a significant monitoring, recordkeeping, and reporting burden for facilities with only non-colocated lumber kilns.

Only those facilities that are major sources of HAP emissions are subject to the final PCWP NESHAP. Facilities with non-colocated lumber kilns that are classified as major sources of HAP must submit an initial notification form required by the final PCWP NESHAP and the Part 1 ''MACT Hammer'' application required by section 112(j) of the CAA.

40 CFR 63.2232 What parts of my plant does this subpart cover?

(a) This subpart applies to each new, reconstructed, or existing affected source at a PCWP manufacturing facility.

(b) The affected source includes lumber kilns at PCWP manufacturing facilities and at any other kind of facility.

(c) In affected source is a new affected source if you commenced construction of the affected source after January 9, 2003, and you meet the applicability criteria at the time you commenced construction.

Potlatch Clearwater's LSI and Moore masonry kilns are existing affected facilities. Upon construction of the four proposed Wellons kilns, those kilns will be a new affected facility.

40 CFR 63.2233 When do I have to comply with this subpart?

(a) If you have a new or reconstructed affected source, you must comply with this subpart according to paragraph (a)(1) or (2) of this section, whichever is applicable.

(1) If the initial startup of your affected source is before September 28, 2004, then you must comply with the compliance options, operating requirements, and work practice requirements for new and reconstructed sources in this subpart no later than September 28, 2004.

(2) If the initial startup of your affected source is after September 28, 2004, then you must comply with the compliance options, operating requirements, and work practice requirements for new and reconstructed sources in this subpart upon initial startup of your affected source.

Compliance with the applicable NESHAP requirements for the proposed Wellons kilns will be required upon startup.

Notifications, Reports, and Records

40 CFR 63.2280 *What notifications must I submit and when?*

(b) You must submit an Initial Notification no later than 120 calendar days after September 28, 2004, or after initial startup, whichever is later, as specified in 40 CFR 63.9(b)(2).

40 CFR 63.9 Notification requirements.

(b) Initial notifications.

2) The owner or operator of an affected source that has an initial startup before the effective date of a relevant standard under this part shall notify the Administrator in writing that the source is subject to the relevant standard. The notification, which shall be submitted not later than 120 calendar days after the effective date of the relevant standard (or within 120 calendar days after the source becomes subject to the relevant standard), shall provide the following information:

(i) The name and address of the owner or operator;

(ii) The address (i.e., physical location) of the affected source;

(iii) An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date;

(iv) A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted; and

(v) A statement of whether the affected source is a major source or an area source.

40 CFR 63—Subpart DDDD does not contain any emissions-based control requirements for the lumber drying kilns at Potlatch Clearwater. The only requirement for the permittee to comply with is the submittal of initial notification of being subject to 40 CFR 63—Subpart DDDD as a major HAPs source.

IDAPA 58.01.01.300…….....Procedures and Requirements for Tier I Operating Permits

Potlatch Clearwater is a Tier I major facility as defined by IDAPA 58.01.01.008. Emissions of methanol, a HAP, are greater than 10 T/yr. Upon issuance of this PTC, potential emissions of VOCs will be 217 T/yr. The terms and conditions of this PTC do not contravene any provision of the facility's Tier I operating permit.

The permittee is required to include all applicable requirements of this PTC in the Tier I operating permit application when the Tier I permit is renewed, as specified by IDAPA 58.01.01.209.05.iv.

Information requirements for the Tier I permit application are specified by IDAPA 58.01.01.314.

The annual throughput limitation, wood species prohibition, and all monitoring, recordkeeping and reporting requirements associated with the throughput limitation and wood species processing requirements are considered applicable requirements under the Tier I permitting program.

TAPs emission limits do not qualify as applicable requirements for Tier I permitting, as defined by IDAPA 58.01.01.008.03.b. TAPs emission limits are not required to be included in the facility's Tier I operating permit.

Initial notification requirement established under 40 CFR 63—Subpart DDDD is an applicable requirement under the Tier I permitting program.

Any of the applicable requirements generated by the issuance of this PTC must be incorporated in the facility's Tier I permit renewal.

5.5 Permit Conditions Review

This permit action consists of an entirely new PTC issued to the Potlatch Clearwater Wood Products facility for the kiln replacement project.

Permit Condition 2.3 – Process Weight Rate PM Emission Limit

Permit Condition 2.3 – Opacity Limit

2.3 Opacity Limit

Emissions from the drying kilns, or any other stack, vent, or functionally equivalent opening associated with the drying kilns, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required by IDAPA 58.01.01.625. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625, unless otherwise specified.

Permit Condition 2.4 contains the state of Idaho opacity standard for point sources. No additional monitoring or recordkeeping is required in the PTC to demonstrate compliance with the opacity limit.

Permit Condition 2.4—TAPs Emission Limits

2.4 *Toxic Air Pollutant Emission Limits*

2.4.1 Acetaldehyde

Emissions of acetaldehyde shall not exceed 2,738 pounds per any consecutive 12-month period.

2.4.2 Formaldehyde

Emissions of formaldehyde shall not exceed 983 pounds per any consecutive 12-month period.

The acetaldehyde emission limit was included in the permit because DEQ interpreted the application's ambient impact demonstration as being a controlled ambient impact during the concurrent operation scenario. The formaldehyde emission limit was included in the permit application utilized a net ambient concentration to comply with the TAP increment.

Permit Condition 2.5– Lumber Throughput Limitation

2.5 Throughput Limits

The throughput of lumber for the kilns shall not exceed 351,009 thousand board feet (Mbf) of all wood species during any consecutive 12-month period.

Concurrent operation of the 32 existing and four proposed drying kilns are limited under a throughput limitation of 351,009,000 bf/yr of lumber. After the existing kilns have been decommissioned, the four new Wellons drying kilns must comply with the same throughput limitation. The permit condition establishes the total throughput of lumber for two individual operating scenarios but does not require that the permittee distinguish which scenario they are operating under. The two scenarios include: 1) the concurrent operation of the 32 existing kilns and the four Wellons kilns; and, 2) operation of the four new kilns after the existing kilns have been decommissioned. Potential emissions of TAPs, HAPs, PM_{10}, and VOCs are limited by the throughput limitation.

Permit Condition 2.6–Prohibited Wood Species

2.6 Prohibited Wood Species

The following wood species shall not be processed in the lumber drying kilns:

- *White pine,*
- *Ponderosa pine,*
- *Southern yellow pine,*
- *Red pine,*
- *Lodgepole pine, and*
- *Sugar pine.*

This is an operating requirement. These wood species have been prohibited to be processed in the drying kilns to limit potential VOCs emissions. Lodgepole pine is prohibited to limit both VOCs and formaldehyde emissions.

Permit Condition 2.7—Concurrent Operation of the Kilns

2.7 Concurrent Operation of New and Existing Kilns

The duration of concurrent operation of the 32 existing Moore and LSI kilns and the four new Wellons kilns shall not exceed 180 days. The period of allowable concurrent operation commences on the date of initial startup of one or more of the Wellons kilns and terminates after 180 consecutive days following initial startup.

This permit condition establishes the duration that the existing kilns and the new kilns can operate concurrently. The duration of this period was established from the permittee's March 18, 2005 PTC application.

Permit Condition 2.8 – Compliance Demonstration for Emissions Limits on VOCs and TAPs, and Throughput Limit

2.8 Throughput Monitoring and Recordkeeping

Each month, the permittee shall monitor and record the throughput and wood species of lumber for the drying kilns in units of thousand board feet (Mbf) for that month and for the most recent consecutive 12-month period.

A compilation of the most recent two years of records shall be kept on site and shall be made available to DEQ representatives upon request.

The permittee is required to monitor and record the throughput of lumber processed in the drying kilns on bases of monthly and for every consecutive 12-month period. The units used to track throughput are on a basis of thousand board feet, in order to establish compliance with the throughput limitation in Permit Condition 2.5.

The permittee is required to monitor and record the species of wood dried in the kilns to establish compliance with Permit Condition 2.6, which prohibits the drying of certain species of wood.

Permit Condition 2.9—Initial Notification of NESHAP Applicability

2.9 Plywood and Composite Wood Products NESHAP Initial Applicability Reporting Requirement

The permittee shall submit initial notification of applicability to 40 CFR 63—Subpart DDDD to DEQ and EPA Region 10 in accordance with the following:

40 CFR 63—Subpart DDDD Initial Notification

§ 63.9(b) Initial notifications.

2) The owner or operator of an affected source that has an initial startup before the effective date of a relevant standard under this part shall notify the Administrator in writing that the source is subject to the relevant standard. The notification, which shall be submitted not later than 120 calendar days after the effective date of the relevant standard (or within 120 calendar days after the source becomes subject to the relevant standard), shall provide the following information:

(i) The name and address of the owner or operator;

(ii) The address (i.e., physical location) of the affected source;

(iii) An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date;

(iv) A brief description of the nature, size, design, and method of operation of the source and an identification of the types of emission points within the affected source subject to the relevant standard and types of hazardous air pollutants emitted; and

(v) A statement of whether the affected source is a major source or an area source.

Potlatch Clearwater currently is a major source of HAPs and will remain a major source of HAPs upon issuance of this PTC. MACT promulgation for lumber drying kilns did not include any emission reduction standards. The only requirement listed in 40 CFR 63—Subpart DDDD was an initial notification under 40 CFR 63.9(b).

6. PERMIT FEES

Table 5.6 contains the emission increases at the Potlatch Clearwater facility that are subject to PTC processing fee review.

Table 5.6 PTC PROCESSING FEE TABLE

Emissions Inventory			
Pollutant	**Annual Emissions Increase (T/yr)**	**Annual Emissions Reduction (T/yr)**	**Annual Emissions Change (T/yr)**
NO_X	0.0	0	0.0
SO_2	0.0	0	0.0
CO	0.0	0	0.0
PM_{10}	8.4	0	8.4
VOC	67.2	0	67.2
TAPS/HAPS	11.4	0	11.4
Total:	87.0	0	**87.0**
Fee Due	**$ 5,000.00**		

Potlatch Clearwater submitted a payment of $2500.00 on March 18, 2005, to be applied to the 15-day Pre-Permit Construction approval application. $1000.00 was applied to the application fee, and $1500.00 of this fee submittal will be applied toward the PTC processing fee for the kiln replacement project. A balance of $3500.00 is required to be submitted prior to issuing the PTC for this project.

Potlatch Clearwater is a major Tier I facility and will remain a major Tier I facility following issuance of PTC No. P-050200. Fees may be increased due to an increase in potential emissions of VOCs. The amount of fees increase may depend upon the throughput and species of lumber processed by the kilns and processed in the facility's Sawmill and Surfacing Departments. Historically, the facility has paid fees based upon estimated actual emissions.

7. PERMIT REVIEW

7.1 Regional Review of Draft Permit

A draft PTC package was provided to the Lewiston Regional Office for review on June 7, 2005.

7.2 Facility Review of Draft Permit

The permittee retracted the request to review a facility draft PTC and statement of basis. In order to reduce the timeline for issuance of the PTC, the permittee intends to utilize the public comment period for commenting on the proposed PTC.

7.3 Public Comment

An opportunity for public comment period on the PTC application was provided from February 25, 2005 to March 28, 2005, in accordance with IDAPA 58.01.01.209.01.c. During this time, there were not comments on the application. On March 2, 2005, DEQ's Lewiston Regional Office received a request for a public comment period. A 30-day public comment period has been scheduled for June XX, 2005 to July XX, 2005.

8. RECOMMENDATION

Based on review of application materials, and all applicable state and federal rules and regulations, staff recommend that the Potlatch Corporation, Clearwater Wood Products be issued a draft PTC No. P-050200 for the new Wellons lumber drying kilns. No public comment period is recommended, no entity has requested a comment period, and the project does not involve PSD requirements.

DAM/sd Permit No. P-050200

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Appendix A

AIRS Information

P-050200

AIRS/AFS[a] FACILITY-WIDE CLASSIFICATION[b] DATA ENTRY FORM

Facility Name: **Potlatch Corporation, Clearwater Wood Products**
Facility Location: **Lewiston, Idaho**
AIRS Number: **069-00003**

AIR PROGRAM / POLLUTANT	SIP	PSD	NSPS (Part 60)	NESHAP (Part 61)	MACT (Part 63)	SM80	TITLE V	AREA CLASSIFICATION A-Attainment U-Unclassified N- Nonattainment
SO_2	B							U
NO_x	A							U
CO	B							U
PM_{10}	B							U
PT (Particulate)	B							
VOC	A							U (ozone)
THAP (Total HAPs)	A Methanol				DDDD		A	
			APPLICABLE SUBPART					
					A			

[a] Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

[b] AIRS/AFS Classification Codes:

A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For HAPs only, class "A" is applied to each pollutant which is at or above the 10 T/yr threshold, **or** each pollutant that is below the 10 T/yr threshold, but contributes to a plant total in excess of 25 T/yr of all HAPs.

SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.

B = Actual and potential emissions below all applicable major source thresholds.

C = Class is unknown.

ND = Major source thresholds are not defined (e.g., radionuclides).

Appendix B

Emissions Inventory

P-050200

Appendix C

Modeling Review

P-050200

Appendix D

Emission Factor Documentation

P-050200